

# LIST OF CONTENTS

VOLUME 41, NUMBER 1, 1988

	<i>Articles</i>
Lin Wenxian ( <i>China</i> )	1 A general correlation for estimating the monthly average daily direct radiation incident on a horizontal surface in Yunnan Province, China
S. Hammarsten ( <i>Sweden</i> ), D. van Hattem, H. Bloem and R. Colombo ( <i>Italy</i> )	5 Passive solar component testing with identification methods
J. A. Davies and D. C. McKay ( <i>Canada</i> )	15 Estimating solar radiation from incomplete cloud data
Arvid Skartveit and Jan Asle Olseth ( <i>Norway</i> )	19 Some simple formulas for multiple Rayleigh scattered irradiance
R. E. Critoph ( <i>England</i> )	21 Performance limitations of adsorption cycles for solar cooling
M. J. Carvalho, M. Collares-Pereira, F. M. Cunha and C. Vitorino ( <i>Portugal</i> )	33 An experimental comparison of operating strategies for solar water systems
G. P. Mulholland, I. J. Hall, R. M. Edgar and C. R. Maxwell ( <i>U.S.A.</i> )	41 Flux gage calibration for use in solar environments
J. F. Weaver and M. Segal ( <i>U.S.A.</i> )	49 Some aspects of nonrandom cloudiness in solar energy applications
J. Doménech and J. Peral ( <i>Spain</i> )	55 Removal of toxic cyanide from water by heterogeneous photocatalytic oxidation over ZnO
L. A. Frulla, D. A. Gagliardini, H. Grossi Gallegos, R. Lopardo ( <i>Argentina</i> ) and J. D. Tarpley ( <i>U.S.A.</i> )	61 Incident solar radiation on Argentina from the geostationary satellite GOES: Comparison with ground measurements
G. Athanassouli ( <i>Greece</i> )	71 A model to the thermal transient state of an opaque wall due to solar radiation absorption
Khaled Gommed and Gershon Grossman ( <i>Israel</i> )	81 Process steam generation by temperature boosting of heat from solar ponds
Donald A. Neeper ( <i>U.S.A.</i> )	91 Analytic model of a passive vapor transport heating system
P. Biondi, L. Cicala and G. Farina ( <i>Italy</i> )	101 Performance analysis of solar air heaters of conventional design
	<i>Communication</i>
Mehmet A. Akgün ( <i>Turkey</i> )	109 Heat removal factor for a serpentine absorber plate
	113 Errata

## VOLUME 41, NUMBER 2, 1988

## Articles

- A. Prieto and J. M. Ledanois** (*Venezuela*) 115 A new solar map of Venezuela
- K. Altfeld, W. Leiner and M. Flebig** (*FRG*) 127 Second law optimization of flat-plate solar air heaters
- A. Vitner, S. Sarig and R. Reisfeld** (*Israel*) 133 The self-generation mechanism of a laboratory scale saturated solar pond
- K. Kamiuto, M. Iwamoto, K. Koga and S. Sata** (*Japan*) 141 Thermal behavior of a small, saltless solar pond with the semitransparent multilayer surface insulation system
- T. Galal, P. Nardin and J. Mignot** (*France*) 147 An analysis for solar central receiver systems with terminal concentrators or variable apertures
- S. Al-Aruri, M. Rasas, K. Al-Jamal and N. Shaban** (*Kuwait*) 159 An assessment of global ultraviolet solar radiation in the range (0.290–0.385  $\mu\text{m}$ ) in Kuwait
- A. Al-Kandari, A. M. R. Al-Marafie, R. K. Suri and G. P. Maheshwari** (*Kuwait*) 163 Performance assessment of a paraboloid dish collector field
- A. A. Elimam, A. Awni, S. Moustafa and S. Al-Akhond** (*Kuwait*) 169 Application program for the Sulaibiya solar thermal power plant: Energy flow and water allocation model
- A. Brandstetter** (*Australia*) 183 On the stability of calcium chloride hexahydrate in thermal storage systems
- F. C. Porisini** (*Italy*) 193 Salt hydrates used for latent heat storage: Corrosion of metals and reliability of thermal performance
- E. Bilgen** (*Canada*) 199 Solar hydrogen production by hybrid thermochemical processes
- C. H. Strauss, S. C. Grado, P. R. Blankenhorn and T. W. Bowersox** (*U.S.A.*) 207 Economic evaluations of multiple rotation SRIC biomass plantations

## VOLUME 41, NUMBER 3, 1988

## Articles

- J. M. Gordon and T. A. Reddy** (*Israel*) 215 Time series analysis of daily horizontal solar radiation
- Christopher L. Gardner and C. Andrew Nadeau** (*Canada*) 227 Estimating south slope irradiance in the Arctic—A comparison of experimental and modeled values

- S. A. Naman, S. A. Said and F. M. Hussein (Iraq)**
- M. H. Omar and M. A. Mosalam Shaltout (Egypt)**
- Wolfgang J. C. Schiel and Michael A. Geyer**
- A. Argiriou, F. Papini, R. Pasquetti, S. Arconada, P. Gallet and M. Audibert (France)**
- A. Louche, G. Simonnot, M. Iqbal and M. Mermier (France)**
- J. R. Connell (U.S.A.)**
- John Littler (U.K.)**
- Beverly Berger (U.S.A.)**
- Robert Hill (U.K.)**
- 241 Photochemically assisted solar energy storage using eriochrome black-T in solar flat collector
- 247 Solar net radiation over water in a class "A" evaporation pan at Giza, estimated on the base of its close relationship with global radiation
- 255 Testing an external sodium receiver up to heat fluxes of 2.5 MW/m<sup>2</sup>: Results and conclusions from the IEA-SSPS high flux experiment conducted at the central receiver system of the Plataforma Solar de Almeria (Spain)
- 267 Measurement of brightness concentration distribution in the focal zone of a focusing solar collector with an infrared camera
- 273 Experimental verification of some clear-sky insolation models
- 281 A primer of turbulence at the wind turbine rotor
- 295 *Erratum*
- Book Reviews*
- 297 *The Design of Energy Responsive Commercial Buildings* by Steven Ternoey, Larry Bickle, Claude Robbins, Robert Bush, and Kitt McCord
- 298 *Energy from Biomass—3rd E. C. Conference* by W. Palz, J. Coombs and D. O. Hall (eds.)
- 298 *Thin Film Solar Cells* by K. L. Chopra and S. R. Das
- Books Received*
- 301 *Physics and Technology of Solar Energy* by H. P. Garg, M. Dayal, G. Furlan and A. A. M. Sayigh
- 301 *Solar Cells: Their Optics and Metrology* by M. M. Koltun
- 303 ISES International Awards and Call for Nominations

## VOLUME 41, NUMBER 4, 1988

*Articles*

- O. A. Salman and N. Khraishi (Kuwait)**
- 305 Thermal decomposition of limestone and gypsum by solar energy

- |   |     |  |
|---|-----|--|
| <b>K. Altfeld, W. Leiner and M. Fiebig</b> ( <i>Federal Republic of Germany</i> )   | 309 | Second law optimization of flat-plate solar air heaters. Part 2: Results of optimization and analysis of sensibility to variations of operating conditions |
| <b>J. O'Gallagher and R. Winston</b> ( <i>U.S.A.</i> )  | 319 | Performance model for two-stage optical concentrators for solar thermal applications   |
| <b>J. M. Baldasano, J. Clar and A. Berna</b> ( <i>Spain</i> )   | 327 | Fourier analysis of daily solar radiation data in Spain  |
| <b>Alfonso Soler</b> ( <i>Spain</i> )   | 335 | The dependence on solar elevation of the correlation between monthly average hourly diffuse and global radiation   |
| <b>Wim Sloetjes, Jaap Haverhals and Kees Kerkdijk</b> ( <i>The Netherlands</i> ), <b>Iman Osman Ahmed, Hisham Saber and Shommo Shaa Eldin</b> ( <i>The Sudan</i> ), <b>Rob Porsius and Ad Stolk</b> ( <i>The Netherlands</i> ), <b>Asha El Karib, Kahil Yousif and Hassan Wardi Hassan</b> ( <i>The Sudan</i> ) | 341 | Operational results of the 13 kW/50 m <sup>2</sup> solar-driven cold store in Khartoum, The Sudan  |
| <b>S. Chirarattananon, C. Chinporncharoenpong and R. Chirarattananon</b> ( <i>Thailand</i> )  | 349 | A steady-state model for the forced convection solar cabinet dryer   |
| <b>M. A. Rosen and F. C. Hooper</b> ( <i>Canada</i> )   | 361 | The development of a model for the geometric description of clouds and cloudy skies  |
| <b>P. Ineichen, A. Zelenka, O. Guisan and A. Razafindralbe</b> ( <i>Switzerland</i> )   | 371 | Solar radiation transposition models applied to a plane tracking the sun   |
| <b>K. K. Gopinathan</b> ( <i>Lesotho, Africa</i> )  | 379 | Computing the monthly mean daily diffuse radiation from clearness index and percent possible sunshine  |
| <b>A. W. Harrison and C. A. Coombes</b> ( <i>Canada</i> )   | 387 | An opaque cloud cover model of sky short wavelength radiance   |
| <i>Book Reviews</i>   |     |  |
| <b>Chris van Koppen</b> ( <i>The Netherlands</i> )  | 393 | <i>Thermal Energy Storage</i> by G. Beckman and P. V. Gilli  |
| <b>John Twidell</b> ( <i>Scotland</i> )   | 393 | <i>Energy, Environment and Development in Africa</i> by R. Peet  |
| <b>John Twidell</b> ( <i>Scotland</i> )   | 394 | <i>Wood, Energy and Households</i> by C. Barnes, J. Ensminger and P. O'Keefe (Eds.)  |
|   | 395 | Announcement   |

## VOLUME 41, NUMBER 5, 1988

## Articles

- P. C. Jain, S. Jain, and C. F. Ratto** (*Italy*) 397 A new model for obtaining horizontal instantaneous global and diffuse radiation from the daily values
- A. Zelenka** (*Switzerland*) 405 Asymmetrical analytically weighted  $\bar{R}_b$  factors
- M. Halmann and Z. Porat** (*Israel*) 417 Photooxidation of bromide to bromine in Dead Sea water
- J. M. Gordon and T. A. Reddy** (*Israel*) 423 Time series analysis of hourly global horizontal solar radiation
- Haruo Uehara, Carmelo O. Dillao, and Tsutomu Nakaoka** (*Japan*) 431 Conceptual design of ocean thermal energy conversion (OTEC) power plants in the Philippines
- P. Polato and E. Masetti** (*Italy*) 443 Reflectance measurements on second-surface solar mirrors using commercial spectrophotometer accessories
- Donald L. Wise and Don Augenstein** (*U.S.A.*) 453 An evaluation of the bioconversion of woody biomass to calcium acetate deicing salt
- H. N. Post and M. G. Thomas** (*U.S.A.*) 465 Photovoltaic systems for current and future applications
- S. A. Paripatyadar and J. T. Richardson** (*U.S.A.*) 475 Cyclic performance of a sodium heat pipe, solar reformer
- Ch. Schmidt, A. Goetzberger, and J. Schmid** (*W. Germany*) 487 Test results and evaluation of integrated collector storage systems with transparent insulation
- 495 Announcement
- 497 ISES International Awards and Call for Nominations

## VOLUME 41, NUMBER 6, 1988

## Articles

- K. K. Gopinathan** (*Africa*) 499 A general formula for computing the coefficients of the correlation connecting global solar radiation to sunshine duration
- David L. Bushnell** (*U.S.A.*) 503 Performance studies of a solar energy storing heat exchanger
- H. Saha, P. Basu and S. B. Roy** (*India*) 513 Applications of photovoltaic systems—an economic appraisal with reference to India
- A. Akbarzadeh and P. Manins** (*Australia*) 521 Convective layers generated by side walls in solar ponds
- Essam El-Rafey and Mohamed El-Sherbiny** (*Egypt*) 531 Load/weather/insolation database for estimating photovoltaic array and system performance in Egypt

<b>D. Poje and B. Cividini</b> ( <i>Yugoslavia</i> )	543	Assessment of wind energy potential in Croatia
<b>B. N. Prasad and</b> <b>J. S. Saini</b> ( <i>India</i> )	555	Effect of artificial roughness on heat transfer and friction factor in a solar air heater
<b>J. G. McGowan, J. F. Manwell</b> and <b>S. R. Connors</b> ( <i>U.S.A.</i> )	561	Wind/diesel energy systems: Review of design options and recent developments
<b>J. J. Michalsky, R. Perez,</b> <b>R. Stewart, B. A. LeBaron</b> and <b>L. Harrison</b> ( <i>U.S.A.</i> )	577	Design and development of a rotating shadowband radiometer solar radiation/daylight network
<b>D. L. Critten</b> ( <i>U.K.</i> )	583	Light enhancement using E-W aligned long prismatic arrays at high latitude
<b>D. L. Loveday</b> ( <i>U.K.</i> )	593	Thermal performance of air-heating solar collectors with thick, poorly conducting absorber plates
	I	Volume 41, 1988—List of Contents and Author Index

